INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317/232-8603

March 5, 1990

VIA CERTIFIED MAIL P 741 219 990

Mr. F. J. Citek, Refinery Manager
Amoco Oil Company
2815 Indianapolis Blvd.
Whiting, Indiana 46394

Re: NPDES Permit No. IN 0000108
Amoco Oil Company
Whiting, Indiana

Dear Mr. Citek:

This renewal of your NPDES Permit for authorization to discharge into Lake Michigan and the Lake George Branch of the Indiana Harbor Ship Canal has been processed in accordance with Section 402 and 405 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, et seq.), and the Indiana Environmental Management Act as amended (IC 13-7). The enclosed NPDES Permit covers your facility which is a petroleum refinery. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires monthly reporting of several effluent parameters. Reporting is to be done on the enclosed discharge monitoring report form. We have included enough forms to establish a supply for approximately four months of reporting. You should duplicate this form as needed for further reporting. Additionally, you will soon be receiving a supply of the computer generated preprinted federal NPDES DMR forms. Both the state and federal forms need to be completed and submitted on a monthly basis. If you do not receive the preprinted DMR forms in a timely manner, please call this office at 317/232-8808.

Another condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may subject the permittee to criminal or civil penalties. (See Part II A.2.) It is therefore urged that your office and treatment operator understand this part of the permit. Please refer to the response to comment letter for the list of changes to the permit and/or the fact sheet.

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., the "Act"), and the Indiana Environmental Management Act, as amended (IC 13- 7),

AMOCO OIL COMPANY

is authorized to discharge from a petroleum refinery and is located at 2815 Indianapolis Blvd in Whiting, Indiana to receiving waters named Lake Michigan and the Lake George Branch of the Indiana Harbor Ship Canal in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof.

Effective Date: April 1, 1990.

Expiration Date: February 28, 1995.

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Signed this 2nd day of March, 1990, for the Indiana Department of Environmental Management.

TP Chang for

Charles B. Bardonner
Assistant Commissioner
Office of Water Management

TREATMENT FACILITY CLASSIFICATION

The discharger has a Class D industrial wastewater treatment plant, classified in accordance with 327 IAC 8-12, Classification of Water and Wastewater Treatment Plants.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 001. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations

	Quantity or Loading			Quality or Concentration [1]			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report[2]	MGD	--	--	--	Daily	Continuous
$TBOD_5$	4161	8164	lbs/day	Report	Report	mg/l	5 X Weekly	24 Hr. Comp.
TSS	3646	5694	lbs/day	Report	Report	mg/l	5 X Weekly	24 Hr. Comp.
COD	30323	58427	lbs/day	Report	Report	mg/l	3 X Weekly	24 Hr. Comp.
Oil and Grease	1368	2600	lbs/day	Report	Report	mg/l	5 X Weekly	Grab [3]
Phenolics (4AAP)	20.33	73.01	lbs/day	Report	Report	mg/l	3 X Weekly	24 Hr. Comp.
Ammonia as N	1030	2060	lbs/day	Report	Report	mg/l	5 X Weekly	24 Hr. Comp.
Sulfide	23.1	51.4	lbs/day	Report	Report	mg/l	1 X Weekly	24 Hr. Comp.
Total Chromium[4]	23.9	68.53	lbs/day	Report	Report	mg/l	1 X Weekly	24 Hr. Comp.
Hex. Chromium[4]	2.01	4.48	lbs/day	Report	Report	mg/l	1 X Weekly	24 Hr. Comp.
Fecal Coliform[5]	--	--	--	200	400	colonies/100ml	5 X Weekly	Grab
Residual Chlorine[5]	--	--	--	Report	0.05	mg/l	5 X Weekly	Grab
2378-CDD [6]	--	--	--	Report	Report	pg/l	4 X Yearly	24 Hr. Comp.
2378-CDF [6]	--	--	--	Report	Report	pg/l	4 X Yearly	24 Hr. Comp.
Total Selenium	--	Report	lbs/day	--	Report	ug/l	2 X Yearly	24 Hr. Comp.

[1] The permittee shall begin reporting the effluent concentration of the parameters listed above which require reporting only as soon as possible but no later than three months after the effective date of the permit.

[2] The daily maximum flow shall be reported as the highest total daily flow for each monthly reporting period.

[3] Three Grabs Per 24 Hours (Oil & Grease)--Three individual samples taken at equally spaced time intervals during a 24-hour period. Each sample is individually analyzed and the arithmetic mean of the concentrations reported as the value for the 24-hour period. The number of grab samples taken in a 24-hour period may be reduced to one per day after a six month period after the effective date of the permit, if the effluent shows no violations of the oil and grease limitations listed above. At the end of the six month sampling period , the permittee may request, in writing, a review of these requirements. Upon review by the IDEM, the permit may be modified, after public notice and opportunity for hearing, to reduce the number of grab samples taken in a 24-hour period..

[4] If test results from the analysis performed for total chromium reveal that the concentration is less than the limitations for hexavalent chromium, then the test for hexavalent chromium may be eliminated and reported as the same concentration as total chromium for that day.

[5] Fecal coliform and residual chlorine are limited for the period from April 1 through October 31, annually, and only when the refinery sanitary sewers are discharging to the AMOCO WWTP. The monthly average for fecal coliform is calculated as a geometric mean. Residual chlorine testing of Outfall No. 001 is required only when directly chlorinating the outfall.

[6] The permittee shall sample the effluent once every three months for the presence of 2378 substituted chlorinated dibenzodioxin (CDD) and chlorinated dibenzofuran (CDF) isomers using U.S. EPA method 1613 with a target detection limit as low as reasonably achievable but not to exceed the minimum levels listed in Table 2 of method 1613 for a period of three years after the effective date of the permit. The permittee must develop and implement a plan to quantify and reduce the potential for the discharge of CDDs and CDFs in accordance with the schedule of compliance in Part I. D. of this permit.

a. The pH shall not be less than 6.5 nor greater than 9.0. The pH shall be monitored as follows: by a grab sample taken three times each week.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. The discharge shall be free of substances that are in amounts sufficient to be unsightly or deleterious or which produce color, odor, or other conditions apart from that normally produced by a properly functioning WWTP.

e. Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Lake Michigan.

2. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 002. Such discharge shall be limited and monitored by the permittee as specified below:

Discharge Limitations

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	--	--	--	Daily	Continuous
TOC (Intake)	--	--	--	Report	Report	mg/l	5 X Weekly	Grab
TOC (Discharge)	--	--	--	Report	Report	mg/l	5 X Weekly	Grab
TOC (Net)	--	--	--	Report	5.0 [1]	mg/l	5 X Weekly	Grab
Total Residual Chlorine	--	--	--	Report	0.05	mg/l	1 X Weekly	Grab
Oil and Grease(Intake)	--	--	--	Report	Report	mg/l	3 X Weekly	Grab
Oil and Grease (Discharge)	--	--	--	Report	Report	mg/l	3 X Weekly	Grab
Oil and Grease(Net)	--	--	--	Report	5.0 [1]	mg/l	3 X Weekly	Grab
Temperature	--	--	--	Report	[2]	BTU/Hour	5 X Weekly	Continuous

Outfall No. 002 is limited solely to non-contact cooling water, free from process and other wastewater discharges except as provided in Part III.1. of the permit. In the event that water treatment additives, other than chlorine, are to be used in the waters contributing to this discharge, the permittee shall apply to the IDEM for approval of the use of the new additive.

[1] Total Organic Carbon (TOC) and Oil and Grease shall be limited on a net basis. The net result shall be calculated by subtracting the concentration value of the intake water from the concentration value of the gross discharge.

[2] The net result shall be calculated by subtracting the temperature value of the intake water from the temperature value of the gross discharge. The net heat discharged shall be maintained at or below the following limits:

2.0×10^9 BTU/Hour maximum daily average
1.7×10^9 BTU/Hour maximum monthly average

a. The pH shall not be less than 7.0 nor greater than 9.0. The pH shall be monitored as follows: by a grab sample taken three times each week.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. The discharge shall be free of substances that are in amounts sufficient to be unsightly or deleterious or which produce color, odor, or other conditions in such a degree as to create a nuisance.

e. Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Lake Michigan.

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfalls 003 and 004. Such discharge shall be limited to storm water runoff only and monitored by the permittee as specified below:

Discharge Limitations

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
TOC	--	--	--	Report	110	mg/l	1 X Weekly[1]	Grab
Oil and Grease	--	--	--	Report	15	mg/l	1 X Weekly[1]	Grab
GC/MS [2]	--	--	--	--	Report	ug/l	One Time Only	Grab

[1] The permittee shall sample for TOC and Oil and Grease during the first discharge of each week. If there is no discharge during any particular week, then the permittee shall report No Flow for that week on the monthly DMR.

[2] The permittee shall sample and analyze for volatiles, base/neutral and acid fractions of the effluent and the results must be submitted within 120 days after the effective date of the permit.

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: by one grab sample taken during the first discharge of each week. If there is no discharge during any particular week, then the permittee shall report No Flow for that week on the monthly DMR.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. The discharge shall be free of substances that are in amounts sufficient to be unsightly or deleterious or which produce color, odor, or other conditions in such a degree as to create a nuisance.

e. Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into the Lake George Branch of the Indiana Harbor Ship Canal.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit discharge monitoring reports (DMR-1 Form) to the Indiana Department of Environmental Management containing results obtained during the previous month and shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

If there is to occur a substantial period of time during which there will be no discharge from an authorized outfall, then the permittee may submit a written request to the Indiana Department of Environmental Management for relief from reporting requirements. The Commissioner may then suspend reporting requirements without public notice or opportunity for public hearing.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance of the permit.

3. Definitions

a. Monthly Average

(1) Weight Basis - The "monthly average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was discharging. Where less than daily sampling is required by this permit, the monthly average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

(2) Concentration Basis - The "monthly average" concentration means the arithmetic average (proportional to flow) of all daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Maximum" Discharge

(1) Weight Basis - The "daily maximum" discharge means the total discharge by weight during any calendar day.

(2) Concentration Basis - The "daily maximum" concentration means the daily determination of concentration for any calendar day.

c. 24-Hour Composite Sample--Consists of at least thirty two (32) individual samples of wastewater which are taken at approximately equally spaced time intervals during a 24-hour period and which are combined prior to analysis.

For hexavalent chromium, the sample holding time is specified by 40 CFR 136.3 as 24 hours maximum. Therefore, sampling for hexavalent chromium should be scheduled so that this requirement is met. Total Chromium should also be scheduled to be analyzed within 24 hours of the sampling time so that footnote [4] on Page 3 of the permit can be achieved.

d. Concentration--The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

e. The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 230 South Dearborn Street, Chicago, Illinois 60604.

f. The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 105 South Meridian Street, Indianapolis, Indiana 46225.

4. Test Procedures

The analytical and sampling methods used shall conform to the current version of 40 CFR, Part 136. The approved methods may be included in the tests listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the State agency and the U.S. Environmental Protection Agency.

a. Standard Methods for the Examination of Water and Wastewater 16th Edition, 1985 or any more recent edition, American Public Health Association, Washington, D.C. 20005.

b. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis 1972 American Society for Testing and Materials, Philadelphia, PA 19103.

c. Methods for Chemical Analysis of Water and Wastes June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

d. Approved Sample Container for Phenolics

The permittee is required to sample for phenolics using glass containers. In the event that the automatic sampler which utilizes glass containers for the collection of phenolics samples is inoperable, then the automatic sampler which utilizes plastic containers for the collection of samples for the other parameters may be subtituted for the collection of phenolics samples until the cause of the interruption can be expediously corrected. The permittee shall notify the Indiana Department of Environmental Management, Office of Water Management, Enforcement Section of such occurance if the automatic sampler which utliizes glass containers is inoperable for five consecutive days or more. The permittee shall also report the expected duration of the interruption.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Discharge Monitoring Report. Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer, if requested by the Regional Administrator or the Indiana Department of Environmental Management.

C. REOPENING CLAUSE

1. This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

   (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

   (2) controls any pollutant not limited in the permit.

2. Upon the promulgation and effectiveness of federal regulations for the discharges of stormwater under 40 CFR 122.26 and when the U.S. EPA and the State of Indiana finalize a policy regarding the implementation of such, this permit may be modified, after public notice and opportunity for hearing, to incorporate revised limitations for the control of such discharges.

3. This permit may be modified, or, alternately revoked and reissued, after public notice and opportunity for hearing, to incorporate revised effluent limitations, with appropriate schedule(s) of conpliance, if necessary, after final promulgation and effectiveness of revised Indiana Water Quality Standards.

4. This permit may be modified, or, alternately revoked and reissued, after public notice and opportunity for hearing, to incorporate revised effluent limitations, with appropriate schedule(s) of compliance, if necessary, after review of the GC/MS data from Outfall Nos 003 and 004.

D. SCHEDULE OF COMPLIANCE

1. Within 90 days after the effective date of this permit the permittee shall submit a study plan for CDD/CDF sampling and analysis as necessary to identify and quantify all siginificant sources within the plant. At a minimum, the plan shall call for quarterly sampling of the applicable wastewaters for a period of one year, with the corresponding total 2378-TCDD toxicity equivalents (TEQs). The waste streams covered shall include, as a minimum, those already found to contain measurable amounts of CDDs/CDFs and the clarified scrubber water resulting from the incinerqtion of the wastewater treatment plant DAF residuals. Analysis shall be by U.S. EPA method number 1613, with a target detection level as low as reasonably achievable, but not to exceed the minimum levels listed in Table 2 of method 1613.

2. The sampling and analysis study plan shall be implemented within 30 days of IDEM's approval after incorporation of any changes specified by the permitting authority.

3. The permittee shall submit a progress report on the formulation of the CDD/CDF reduction plan 11 months after the effective date of this permit.

4. Within 16 months from the plans approval, the permittee shall submit a complete report of the CDD/CDF sampling and analysis study, including all analytical results and quality assurance data and a process flow diagram indicating the sources and amounts of CDD and CDF in each process wastewater stream. Concurently with the report, the permittee shall submit a CDD/CDF reduction plan proposing interim control measures to reduce the discharge of CDDs and CDFs from the facility and a schedule for their implementation. The plan shall also include follow-up sampling and analysis to determine the effectiveness of the interim control measures.

5. Following incorporation of any changes requested by the permitting authority, implementation of the CDD/CDF reduction plan, if required, shall be initiated by the permittee within 30 days after approval by IDEM.

PART II
STANDARD CONDITIONS FOR NPDES PERMITS
FOR INDUSTRIAL FACILITIES

SECTION A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Indiana Environmental Management Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Pursuant to the Indiana Environmental Management Act, any person who violates a permit condition implementing sections 301, 302, 306, 307, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year or both. If the conviction is for a violation committed after a first conviction of such person under this provision, punishment shall be a fine of not more than fifty thousand dollars ($50,000) per day of violation, or by imprisonment for not more than two (2) years, or both.

Except as provided in permit conditions on "Bypassing," Section B, Paragraph 2 and "Upsets," Section B, Paragraph 3, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit.

4. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of (i) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (ii) a notification of planned changes or anticipated noncompliance does not stay any permit condition.

5. Duty to Provide Information

The permittee shall furnish to the Commissioner, within a reasonable time, any information which the Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Commissioner, upon request, copies of records required to be kept by this permit.

6. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. The Commissioner may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

7. Transfers

This permit is nontransferable to any person except after notice to the Commissioner pursuant to Regulation 327 IAC 5-2-6(c). The Commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

8. Toxic Pollutants

Notwithstanding Paragraph A-4, above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants injurious to human health within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

9. Containment Facilities

When cyanide or cyanogen compounds are used in any of the processes at this facility, the permittee shall provide approved facilities for the containment of any losses of these compounds in accordance with the requirements of Water Pollution Control Board Regulation 327 IAC 2-2-1.

10. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Commissioner as required by IC 13-1-6.

11. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

12. Property Rights

The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or an invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

13. Severability

The provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

14. Inspection and Entry

The permittee shall allow the Commissioner, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

15. Construction Permit

The permittee shall not construct, install, or modify any water pollution control facility without a valid construction permit issued by the Indiana Department of Environmental Management pursuant to 327 IAC 3-2.

SECTION B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems for wastewater collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8.

2. Bypass of Treatment Facilities

a. Definitions:

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility normally utilized for treatment of the waste stream.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production at the permittee's facility.

b. (Prohibition of Bypass) Bypass which causes or is likely to cause applicable effluent limitations to be exceeded is prohibited unless the following three conditions are met:

(1) Bypass is unavoidable to prevent loss of life, personal injury or severe property damage;

(2) There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal period of equipment down-time; and

(3) The permittee submits notice of an unanticipated bypass to the Commissioner within 24 hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). Where the permittee knows or should have known in advance of the need for a bypass, this prior notification shall be submitted for approval to the Commissioner, if possible, at least ten days before the date of the bypass.

c. An anticipated bypass which meets the three criteria of Paragraph b of this subsection may be allowed under conditions determined to be necessary by the Commissioner to minimize any adverse effects.

3. Upset Conditions

a. Definition: "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. (Effect of an upset) An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this subsection are met.

c. (Conditions necessary for a demonstration of upset) A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;

(2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures; and

(3) The permittee complied with any remedial measures required under Paragraph A.3 of this Part.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

SECTION C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by advance notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Monitoring results shall be reported at the intervals and in the form specified in Part I.B.2.

3. Compliance Schedules

Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

4. Twenty-Four Hour Reporting

The permittee shall report information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance:

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Commissioner in the permit to be reported within 24 hours; and

c. Any noncompliance which may pose a significant danger to human health or the environment.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

5. Other Noncompliance

The permittee shall report any instance of noncompliance not reported under Paragraph 3 or 4 of this Section at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Paragraph 4 of this Section.

6. Other Information

Where the permittee becomes aware that he failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Commissioner, the permittee shall promptly submit such facts or corrected information.

7. Changes in Discharge of Toxic Substances

The permittee shall notify the Commissioner as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) One hundred micrograms per liter (100 ug/1);

(2) Two hundred micrograms per liter (200 ug/1) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/1) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/1) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or

(4) The level established in Part III of the permit by the Commissioner.

b. That it has begun or expects to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

8. Signatory Requirements

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a principal executive defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making functions for the corporation or the

manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a Federal, State, or local governmental body or an agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate, and complete. I am aware that there are significant penalities for submitting false information, including the possibility of fine and imprisonment for knowing vioaltions."

9. Availability of Reports

Except for data determined to be confidential under Water Pollution Control Board Regulation 327 IAC 12, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

10. Penalties for Falsification of Reports

The Indiana Environmental Management Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

Part III
Additional Requirements

1. Intake Water Interruption

In the event that the intake water supply is interrupted and to prevent equipment damage or plant shutdown, firewater or recycle (treated process) water may be substituted for noncontact cooling purposes until the cause of the interruption can be expediously corrected. In this case, the monitoring requirement for total organic carbon at the discharge Outfall No. 002 shall be kept at a 5 mg/l net limit. The permittee shall notify the Indiana Department of Environmental Management, Office of Water Management, Enforcement Section upon such occurance and its expected duration.

2. Thermal Effluent Requirements

Based on a favorable joint 316(a) thermal demonstration study submitted by Union Carbide and the permittee, thermal effluent limitations were suspended for this permit in June of 1975. This waiver shall be valid as long as there is no significant increase in the thermal discharge or heat rejection rate from this plant.

3. Intake Structure

In a letter dated June of 1975 from U.S. EPA, Region V, the 316(b) study for this plant has been approved and is still considered valid. Therefore, approval for the permittee's 316(b) study is given and shall remain in effect until the expiration date of this permit so long as significant changes are not made to the intake structure.

Permit No. 0000108

STATE OF INDIANA
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT PROGRAM

FACT SHEET
for
A Draft NPDES Permit to Discharge into Waters of the State
Proposed to be Issued by the:

Indiana Department of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

Public Notice No.:

Public Notice Issued on:

Name and Address of Applicant:

Amoco Oil Company
2815 Indianapolis BLVD
Whiting, Indiana 46394

Name and Address of Facility where Discharge Occurs:

Amoco Oil Company
2815 Indianapolis BLVD
Whiting, Indiana 46394

Receiving Water: Lake Michigan and the Lake George Branch of the Indiana Harbor Ship Canal.

Use Classification: The receiving waters are classified for Domestic Use, Recreational Use, Industrial Use, and Aquatic Life.

I. Tentative Decision on the Application

The above-named applicant has applied for an NPDES Permit to discharge wastewaters into the above-described receiving water. The NPDES Permit program is administered by the Indiana Department of Environmental Management pursuant to Sec. 402(b) of the Federal Clean Water Act, as amended, the Indiana Environmental Management Act, as amended (IC 13-7), and Rule 327 IAC 5. The Commissioner has examined the application and has developed a draft permit which is proposed to be issued subject to concurrence of the U.S. Environmental Protection Agency. Principal provisions of the draft permit, including effluent limitations, and other pertinent information, are outlined below.

II. Location of Discharge

A description and/or sketch of the location of the discharge is appended as Attachment I.

III. Description of Existing Discharge

A quantitative description of the existing discharge in terms of significant effluent parameters is appended as Attachment II.

IV. Description of Effluent Limitations and Effluent Limitations Rationale

A. The effluent limitations in the draft permit as well as monitoring requirements, schedule of compliance, and special conditions are described in Attachment III. Also included is an effluent limitations rationale which provides the basis for each limitation or condition.

B. The other special conditions in the proposed permit may include, but are not necessarily limited to: monitoring, recording, and reporting discharges; limiting discharges of oil, hazardous substances, collected solids, visible floating solids, foams, and effluent batch discharges; planning for electric power failure and spill prevention and containment; and prohibiting bypass of treatment facilities. Persons wishing further information about the special conditions may contact the Indiana Department of Environmental Management.

V. Procedures for the Formulation of Final Determination

A. Interested persons are invited to submit written comments upon the proposed discharge. Comments should be submitted in person or by mail no later than 30 days after the date of the public notice was issued for the permit application. Deliver or mail all comments to:

Indiana Department of Environmental Management
Permits Section
Office of Water Management
105 South Meridian Street
Indianapolis, IN 46225

The application and public notice numbers should appear next to the above address on the envelope and on each page of any submitted comments. All comments received no later than 30 days after the public notice is issued will be considered in the formulation of final determinations. The Indiana Department of Environmental Management will issue final determinations in a timely manner after the expiration of the public comment period.

B. If written comments indicate a significant public interest in the application, the Commissioner of the Indiana Department of Environmental Management shall hold a public hearing on the application. If held, the public hearing will be designed to collect relevant information pertaining to the application in an orderly and expeditious manner. Public notice of a public hearing will be circulated at least 30 days in advance of such event. The public hearing will be held within the State of Indiana. After the public hearing, the Commissioner of the Indiana Department of Environmental Management will formulate her final determination. Further information regarding the conduct and nature of the public hearings concerning discharge permits may be obtained by contacting the Indiana Department of Environmental Management.

Requests for a public hearing should: state the name and address of the person requesting the hearing and of any person represented at the hearing by the requester; identify the interest in the proposed permit of the requester and of any person represented by him; state the reasons for the request; state the issues proposed to be considered at the hearing; and state the position of the requester on the issues to be considered at the hearing.

VI. Staff Contact and Availability of Information

Additional information concerning the draft permit or permit issuance procedures may be obtained between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday from:

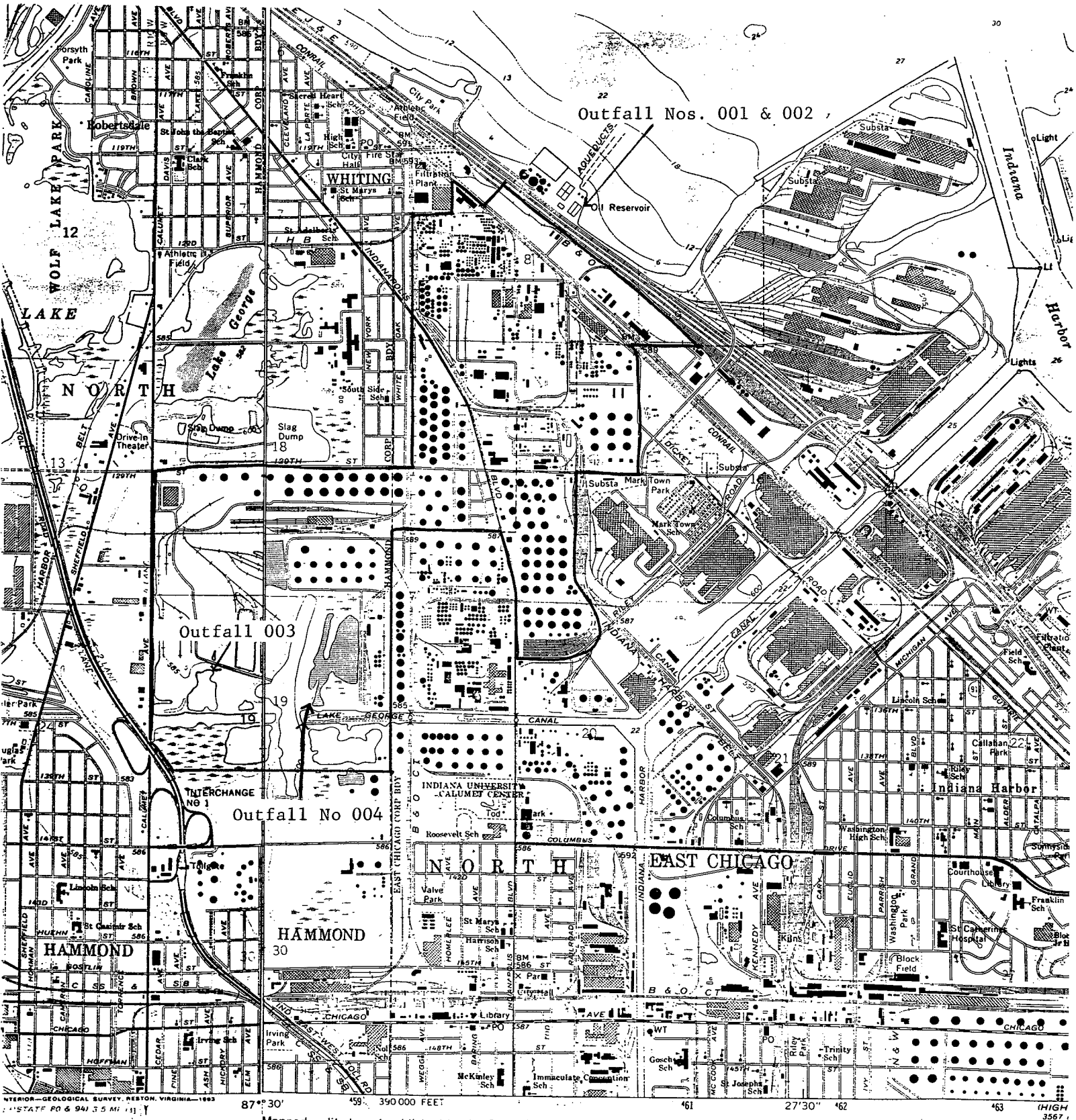
Mr. Steven Roush at 317/232-8702

Copies of the application, proposed permit including proposed effluent limitations, special conditions, comments received, and other documents are available for inspection and may be copied at a cost of 15 cents per page at the Indiana Department of Environmental Management, Room 714, 105 South Meridian Street, Indianapolis, Indiana.

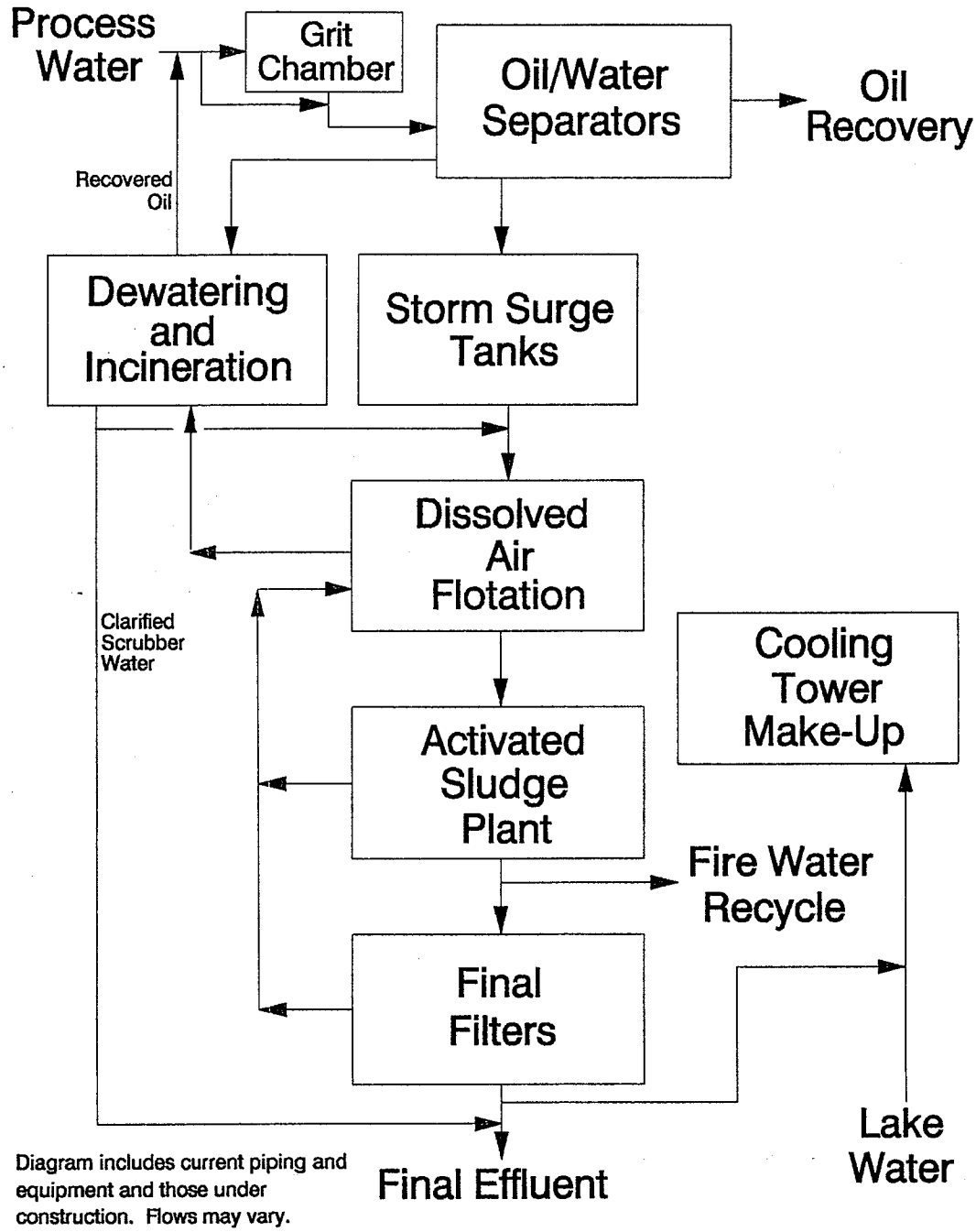
Permit No. IN 0000108

Attachment I

Location of Discharge



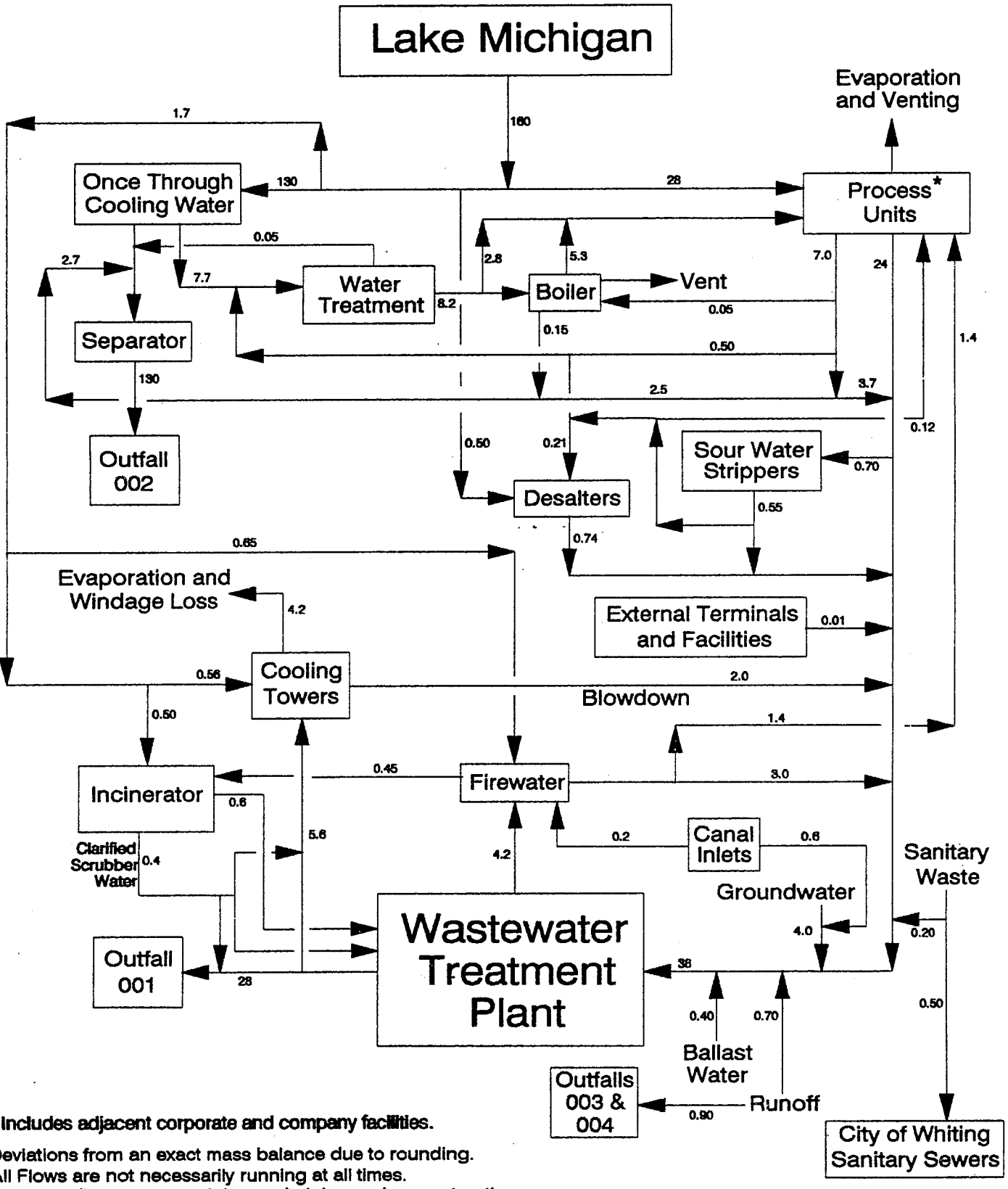
Amoco Oil Company Whiting Refinery
Wastewater Treatment Plant Water Flows



- Diagram includes current piping and equipment and those under construction. Flows may vary.

Permit No. IN 0000108

Amoco Oil Company Whiting Refinery
Water & Wastewater Flow Diagram
(Million Gallons per Day)



* Includes adjacent corporate and company facilities.

Deviations from an exact mass balance due to rounding.
All Flows are not necessarily running at all times.
Arrows indicate current piping and piping under construction.

Attachment II

Description of Existing Discharge Outfall 001

General

The permittee employs approximately 1,800 people at a petroleum refinery located in Whiting, Indiana. The Amoco facility is classified as a "Lube" refinery having a capacity of 324,900 barrels per day based upon the Form 2C application, (see page 10 for a more complete breakdown). The facility is located on the shores of Lake Michigan, approximately twenty miles from downtown Chicago.

The facility receives crude oil by pipeline and refines it into a variety of products including gasoline, heating fuel, jet fuel, diesel fuel, lubricating oils, asphalt, coke, and waxes. Products may be stored prior to shipment by truck, ship, or pipeline.

The facility discharges continuously to Lake Michigan via Outfall Nos. 001 and 002. Outfall 001 discharges the treated process (contact) water from the entire refinery, including stormwater runoff from the processing areas. Outfall 002 discharges once-through-noncontact cooling waters from power stations, pipe stills, vapor recovery units, the sulfur recovery unit, the alkylation unit, the heavy oils division, and the asphalt area. Stormwater runoff from the oil storage tank area, the J & L Highlands Area, and a repository for inert materials (i.e., concrete rubble, topsoil, etc.) is discharged intermittently to the Lake George Branch of the Indiana Harbor Ship Canal via Outfall Nos. 003 and 004.

Activity Description

The Standard Industrial Classification code number for this facility is 2911, Petroleum Refining. It is subcategorized as a Lube Refinery (Subpart D - Lube Subcategory of 40 CFR Part 419, Petroleum Refining Point Source Category promulgated October 18, 1982). Part 419 guidelines were subsequently altered by the Petroleum Refinery Settlement agreement of April 17, 1984, effective May 1, 1984. The addition of the Polybutene/MTBE unit within the last several years did not alter the facility's classification as a lube refinery. In order to be reclassified as an integrated facility, petrochemical operations would need to account for 15% or more of the facility's total production. However, petrochemical operations only account for approximately 5% of total production.

This refinery can process (maximum short term capacity) 410,000 barrels of feedstock (crude oil) fed to topping units per stream day (BSD). However, the guidelines provide for calculation of any permit limitations, standards, or prohibitions which are based on production shall be based not upon designed production capacity but rather upon a reasonable measure of actual production of the facility (i.e., high month for past 12-months or the high year for the past 5-years) for the duration of the proposed permit. (See the attached process configuration breakdown on page 10 for specifics.)

As a result of production figures supplied by the permittee representing the high month for the past 12-months, the throughput of 324,900 BSD will be used for determination of the sizing factor and process factor. This single production value is then to be multiplied by both the daily maximum and monthly average guidelines limitations along with these other two factors to obtain permit limits.

Facility Intake Water and Water Use

The intake water for this facility amounts to approximately 127-MGD from Lake Michigan. The two intake structures extend approximately 1,600 feet out into Lake Michigan and are approximately five feet off the bottom and fifteen feet below the mean lake level. This intake water is utilized in one of several different ways. It is used either as once-through-noncontact cooling water (approximately 130-MGD), contact process water (approximately 20-MGD), or as cooling tower makeup water (approximately 6-MGD). Water for other plant services (i.e., drinking water, sanitary purposes) comes from the Hammond-Whiting water treatment plant. (See water and wastewater balance sheet on page 5 for specific information.)

Wastewater Treatment and Discharge Description

Wastewater collection facilities consist of 3 main sewer systems: a sanitary sewer; a process contact water sewer; and a cooling, noncontact water sewer. The stormwater that collects in the entire refinery area can be treated and discharged through Outfall 001. Approximately 700,000 gpd of sanitary wastes are discharged to the Whiting sanitary sewer system. In the case of an emergency, a portion of this total may be treated at the WWTP and discharged through Outfall No. 001. Process waters (polybutene unit wastewater when operational) along with stormwater runoff are treated by passing these waters through primary separation, dissolved air flotation (DAF), stormwater surge/equalization, coagulation/flocculation, DAF, an activated sludge process, and filtration before being discharged to Lake Michigan via Outfall 001 or recycled if interruption of intake water supply occurs. Clarified scrubber water from the incinerator is also discharged through Outfall No. 001. (See Wastewater Treatment Plant Water Flows Diagram on page 6 for specific information.) Disposal of API sludge, DAF float, and ASP sludge is accomplished in a fluid bed incinerator. The ash remaining from the incineration process is landfilled along with any hazardous wastes that are generated at the plant. Once-through-noncontact cooling waters are treated in a series of oil-water separators prior to discharge to Lake Michigan via Outfall 002.

The old J&L Highlands dump area (west of Indianapolis Boulevard and south of 129th Street) was used by Amoco to dispose of spent caustic. This area has been closed to dumping and Amoco now has storage tanks and a repository for inert materials located there. Stormwater runoff from this area is discharged after oil-water separation through Outfalls 003 and 004 (to Lake George Branch of Indiana Harbor Ship Canal) and/or routed to the WWTP and discharged through Outfall No. 001.

A Well Point Dewatering System is being used in specific areas to collect groundwater likely to be contaminated with substances (oil, etc.) that have been spilled over the years. This flow is routed through the wastewater treatment plant and discharged through Outfall 001.

Water treatment additives in use have been reviewed and do not appear to contain toxic materials in significant amounts. In the event that changes are to be made in the use of water treatment additives, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C.1 and II.C.7 of the permit.

Receiving Waters

Since Outfalls 001 and 002 and the associated mixing zones are not located within an inscribed arc having a 6,000 feet radius drawn from Day Marker No. 2, located at the mouth of the Indiana Harbor in accordance with 327 IAC 2-7, the receiving waters are accordingly classified as open waters of Lake Michigan rather than Inner Harbor Basin waters. Lake Michigan is the receiving body for the refinery's discharge of treated wastewater (includes contact process water, process area stormwater runoff, cooling tower blowdown, ballast water, contaminated groundwater from the wellpoint system and external terminal and facility water) and once-through-noncontact cooling water.

The waters of the Lake George Branch of the Indiana Harbor Ship Canal are covered by regulation 327 IAC 2-8, "Grand Calumet River and Indiana Harbor Ship Canal."

The Lake George Branch receives a variable amount of stormwater runoff from the Old J&L Highlands storage area via Outfalls 003 and 004.

EFFLUENT GUIDELINES
PETROLEUM REFINING POINT SOURCE CATEGORY
BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT)
PROCESS CONFIGURATION - PROCESS BREAKDOWN

Process Category	Processes Included	Weighing Factor	Maximum Short-Term Capacity B/D	High Monthly Average B/D
Crude	Desalting	1	410,000	324,900
	Atmospheric distallation		410,000	324,900
	Vacuum distallation		219,000	170,000
Cracking & Coking	Fluid catalytic cracking	6	150,000	145,000
	Thermofor			
	Houdriflow			
	Gas-oil cracking			
	Visbreaking			
	Fluid coking			
	Delayed coking		23,000	28,600
Lube	Lube hydrofinishing	13	5.680	3,720
	White oil manufacturing		900	840
	Propane - dewaxing, deasphalting		5,700	3,840
	Duo sol, solvent dewaxing			
	Lub vac. tower, wax fract.		21,500	20,700
	Centrifuging and chilling			
	MEK dewaxing		8,600	6,500
	Deoiling (wax)			
	Napthenic lubes			
	SO_2 extraction			
	Wax plant (with neutral separ.)			
	Furfural extraction			
	Wax sweating		1,868	2,800
	Acid treating			
	Phenol extraction			
	NMP extraction		14,600	12,700
Asphalt	Asphalt production	12	48,100	27,000
	Asphalt oxidation		22,400	3,400
	Asphalt emulsifying			
Additional Process for calculation of phenol, & total chromium	Alkylation		30,000	25,400
	Reforming		132,000	91,000
	Hydrotreating		112,000	129,200

Description of Existing Discharge

Outfall No. 001

(Data from DMRs for the period of September, 1988 through September, 1989)

Effluent Parameter	Average (lbs/day)	Maximum (lbs/day)
Flow (MGD)	17	24.3
BOD_5	(274.3)	(2,571)
TSS	(407.5)	(2,834)
COD	(5530.9)	(12,700)
Oil & Grease	(393.6)	(1,843)
Phenolics (4AAP)	(1.4)	(4.2)
Ammonia (as N)	(48.8)	(1,576)
Sulfide	(2.1)	(8.0)
Total Chromium*	(1.7)	(6.9)
Hex. Chromium	(0.23)	(2.7)
Fecal Coliform	14.8	9000.0

Outfall No. 002

(Data from DMRs for the period of September, 1988 through September, 1989)

Effluent Parameter	Average (mg/l)	Maximum (mg/l)
Flow (MGD)	119.5	123.8
TOC (Net)	(1.5)	(5)
Total Residual Chlorine*	(0.04)	(0.04)
Temperature*** (°C.)	24	39
Net Heat Discharged ($x10^9$ BTU/Hr.)	0.956	1.35
Oil & Grease	(2.4)	(7.5)

Outfall No. 003

(Data from DMRs for the period of September, 1988 through September, 1989)

Effluent Parameter	Average (mg/l)	Maximum (mg/l)
Oil and Grease	(9.8)	(22)
TOC	(53.3)	(87)

Outfall No. 004 reported no discharge for the period from September, 1988 through September, 1989.

Attachment III

Description of Effluent Limitations and Effluent Limitations Rationale

Outfall 001

Effluent Parameter	(lbs/day) Monthly Avg.	(lbs/day) Daily Maximum
Flow (MGD)	Report	Report
BOD_5	(4,161)	(8,164)
Total Suspended Solids	(3,646)	(5,694)
Oil & Grease	(1,368)	(2,600)
COD	(30,323)	(58,427)
Phenolics (4AAP)	(20.33)	(73.0)
Ammonia (as N)	(1,030.0)	(2,060.0)
Sulfide	(23.1)	(51.4)
Total Chromium	(23.9)	(68.53)
Hexavalent Chromium	(2.01)	(4.48)
pH Units (limited between 6.5 and 9.0)		
Fecal Coliform	200/100 ml	400/100 ml
Total Residual Chlorine	Report	0.05 mg/l
2378 CDD isomers[1]	Report	Report
2378 CDF isomers[1]	Report	Report
Total Selenium	Report ug/l & lbs/day	Report ug/l & lbs/day

[1] The permittee is required to monitor for these isomers for a period of three years after the effective date of the permit.

Outfall No. 002

Effluent Parameter	Monthly Avg. (mg/l)	Daily Maximum (mg/l)
Flow (MGD)	Report	Report
Total Organic Carbon, Intake [2]	Report	Report
Total Organic Carbon, Discharge [2]	Report	Report
Total Organic Carbon (Net)	Report	(5 Net)
Oil and Grease	Report	(5 Net)
Temperature [1]	Report	Report
Total Residual Chlorine	Report	(0.05)
pH units (limited between 7.0 and 9.0)		

[1] The net heat discharged shall be maintained at or below the following limits.

2.0×10^9 BTU/Hour maximum daily average.
1.7×10^9 BUT/Hour maximum monthly average.

[2] In the event that the intake water supply is interrupted and to prevent equipment damage and/or plant shutdown, firewater or recycle water may be substituted for noncontact cooling purposes until the cause of the interruption can be corrected. In this case, the monitoring requirement for total organic carbon at discharge Outfall 002 shall remain at 5 mg/l net.

The permittee shall notify the Indiana Department of Environmental Management, Office of Water Management, Enforcement Section upon such an occurrence and its expected duration.

Outfall Nos. 003 and 004

Effluent Parameter	Monthly Average	Daily Maximum
Oil and Grease	Report	15 mg/l
TOC	Report	110 mg/l
pH	6.0 to 9.0	

Effluent Limitations Rationale

Outfall No. 001

BOD5, TSS, Oil and Grease, COD, Phenolics (4AAP), Ammonia as N, Sulfide, Total Chromium, and Hex. Chromium

The effluent limitations for the above parameters have been retained from the previous permit in accordance with Section 402(o) of the Clean Water Act of 1987 which states, "a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under Section 304(b) subsequent to the original issuance of such permit, to contain effluent limitation which are less stringent than the comparable effluent limitations in the previous permit." There are exceptions to this rule in Section 402 but Amoco does not qualify for any of the exceptions since Amoco is consistently meeting all of the current effluent limitations. Therefore, the effluent limitations from the previous permit shall be retained in the new permit even though the limitations calculated using the guidelines are less stringent.

Fecal Coliform and Residual Chlorine

Fecal coliform and total residual chlorine are included in this permit because under emergency situations, a portion of the refinery sanitary wastewater may be treated by the wastewater treatment plant which discharges through Outfall No. 001. The effluent limitations for these pollutants are based on Indiana Water Quality Standards.

pH

The effluent limitations for pH are based on Indiana Water Quality Standards 327 IAC 2-7, Lake Michigan and Contiguous Harbor Areas. The regulation requires pH to be between the range of 7.5 to 8.5 at any point outside the mixing zone. The previous permit limited pH to the range of 6.5 to 9.0 since the pH outside of the mixing zone will remain between 7.5 to 8.5. Therefore, the previous limits shall remain in the new permit.

Selenium

Selenium has been found in the effluent in amounts causing concern to the water quality of Lake Michigan and therefore, selenium shall continue to be monitored twice yearly in Outfall No. 001.

Water Treatment Additives

Water treatment additives in use at this facility have been reviewed and do not appear to contain toxic materials in significant amounts. In the event that changes are to be made in the type of water treatment additives the permittee shall notify the Permits Section of the Office of Water Management in accordance with Part II.C.1 and II.C.7 of the permit.

Determination of Process Configurations

Process	Process Capacity (1,000 Bbl/day)	Process of total Capcity	Process Weighting Factor (from Table) PWF	Process Configuration Factor (PCF)
CRUDE				
ATM Dist.	324.9	1.000		
Vacuum Dist.	170.0	0.523		
Desalting	324.9	1.000		
		2.523	X 1 =	2.523
CRACKING AND COKING				
FCC	145.0	0.446		
Delayed coking	28.6	0.088		
		0.534	X 6 =	3.204
LUBE				
Hydrofining	3.72	0.011		
White oil mfg.	0.84	0.003		
Prop-dewax, deasph	3.84	0.012		
Vac. Tower wax fr.	20.7	0.064		
MEK dewax.	6.5	0.02		
Wax sweat.	2.8	0.009		
NMP extract.	12.7	0.039		
		0.158	X 13 =	2.054
ASPHALT				
Asphalt Prod.	27.0	0.083		
Asphalt oxidation	3.4	0.01		
		.093 X	12 =	1.116 / 8.897 = PCF

From Effluent Guidelines Tables Using Facility Capacity Figure (High Month for Last 12-Months) and Calculated PCF value	SF (1.19)	X	PF (1.19)	X	324.9 = 460.9

SF = Size Factor
PCF = Process Configuration Factor
PF = Process Factor
PWF = Process Weighing Factor

2378 CHLORINATED DIBENZODIOXIN AND DIBENZOFURAN

Since chlorinated dibenzodioxins (CDDs) and chlorinated dibenzofurans (CDFs) were found in the process wastewater streams tributary to the wastewater treatment plant, and since their discharge from Outfall No. 001 may exceed water quality standards without being detectable, the permittee must develop a plan to determine the potential for discharge of CDDs and CDFs. The permittee shall also monitor the effluent from Outfall No. 001 for 2378-substituted CDD and CDF isomers using U.S. EPA method 1613 wuth a target detection limit as low as reasonably achievable but no higher than the minimum levels listed in Table 2 of method 1613 for a period of three years from the effective date of the permit.

Outfall No. 002

The TOC limitation is based on the U.S. EPA effluent guidelines from 40 CFR Part 419.43(e) for discharges of once through cooling water. TOC shall be limited on a net basis in accordance with 327 IAC 5-2-11(e).

Oil and Grease

The requirement that there should be no net increase in the quantities of oil greater than 5 mg/l is based on the current policy for cooling water discharges and Indiana water quality standards. A net limit will recognize the background level of oil and grease in the intake water, and also ensure that oil and grease are not added to the once-through cooling water discharge.

Temperature

The temperature limitations are based on a 316(a)&(b) variance which was granted in 1975. The permittee has been granted their request to continue the variance in the new permit.

Total Residual Chlorine (TRC)

The TRC limitations are based on Indiana Water Quality Standards and the ability to measure TRC.

pH

The pH limits of 7.0 to 9.0 from the previous permit are being retained in the new permit.

Outfall No. 003 and 004

TOC

The effluent limitations for TOC are based on 40 CFR Part 419.43(f) for wastewater that consists of contaminated runoff.

Oil and Grease and pH

The effluent limitations for oil and grease and pH are based on Indiana Water Quality Standards.

Effluent Guidelines Limitations
(40 CFR Part 419.42-4, Subpart D - Lube Category BPT)

	Process Wastewater (BGD)					Ballast (SA)				
	(lbs/1000 BSD)		(1000 BSD)	(lbs/day)		(lbs/1000 gal)		(lbs/day)	(lbs/day)	
Parameter	Daily Max.	Month Ave.	Long Term (SFxPFxCAP)	Daily Max.	Monthly Ave.	Daily Max.	Monthly Ave.	(1000 gal) Flow	Daily Max.	Monthly Ave.
BOD_5	17.9	9.1	460.0	8235.6	4186.5	0.4	0.22	400	160.0	88.0
TSS	12.5	8.0	460.0	5751.1	3680.7	0.28	0.18	400	112.0	72.0
COD	127.0	66.0	460.0	58431.4	30365.9	3.0	1.5	400	1200.1	600.0
O&G	5.7	3.0	460.0	2622.5	1380.3	0.13	0.067	400	52.0	26.8
Ammonia (as N)	8.3	3.8	460.0	3818.7	1748.3					
Sulfide	0.118	0.053	460.0	54.3	24.4					
Phenolics (4AAP)	0.133	0.065	460.0	61.2	29.9					
T. Chromium	0.273	0.160	460.0	125.6	73.6					
H. Chromium	0.024	0.011	460.0	11.0	5.1					
pH	(limited between 6 and 9)									
TOC (once-through-cool-water)				--	5 mg/l(Net)					

BSD - Barrels per stream day
CAP - Based on the high ;month for the past 12-months
EGD - Effluent Guidelines Division Limitations
  40 CFR Part 419.42: BPT covers conventional, non-conventional, and toxic pollutants
  40 CFR Part 419.43: BAT replaces BPT for the control of non-conventional and toxic pollutants
  40 CFR Part 419.44: BCT replaces BPT for control of conventional pollutants
SA - April 1984 Settlement Agreement between EPA, NRDS, and API
SF - Sizing factor
PF - Process factor

Effluent Limitations

Commingled Stormwater with Process Water (BAT)

	(lbs/1000 BSD) Daily Maximum	Monthly Average	(1000 gal.) Flow	Daily Maximum	Monthly Average
BOD_5	0.4	0.22	700	280	154
TSS	0.28	0.18	700	196	126
COD	3.0	1.5	700	2,100	1,050
O & G	0.13	0.067	700	91	46.9
Phenolics	0.0029	0.0014	700	2.03	0.98
T. Chromium	0.0050	0.0018	700	3.5	1.26
H. Chromium	0.00052	0.00023	700	0.364	0.161

Effluent Limitations Based on Flow Model (BAT)

	(lbs/1000) Daily Maximum	Monthly Average	(1000 BSD) Capacity	(lbs/day) Daily Maximum	Monthly Average
Phenolic Compounds					
Crude	0.013	0.003	819.8	10.66	2.46
*Crack. & Coking	0.147	0.036	173.6	25.52	6.25
Asphalt	0.079	0.019	30.4	2.4	0.58
Lube	0.369	0.090	51.1	18.86	4.6
*Reform. & Alk.	0.132	0.032	245.4	32.39	7.85
				89.83	21.74
Total Chromium					
Crude	0.011	0.004	819.8	9.02	3.28
*Crack. & Coking	0.119	0.041	173.6	20.66	7.12
Asphalt	0.064	0.022	30.4	1.95	0.67
Lube	0.299	0.104	51.1	15.28	5.31
*Reform. & Alk.	0.107	0.037	245.4	26.26	9.08
				73.17	25.46
Hex. Chromium					
Crude	0.0007	0.0003	819.8	0.57	0.25
*Crack. & Coking	0.0076	0.0034	173.6	1.32	0.54
Asphalt	0.0041	0.0019	30.4	0.12	0.06
Lube	0.0192	0.0087	51.1	0.98	0.44
*Reform. & Alk.	0.0069	0.0031	245.4	1.69	0.76
				4.68	2.1

POST PUBLIC NOTICE ADDENDUM

Please refer to the response to comments letters addressed to Amoco, the Izaak Walton League, the Lake Michigan Federation, and the U.S. Fish and Wildlife Service which were signed on the same day as the permit for the list of changes to the permit and/or the fact sheet.

NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM

PUBLIC NOTICE

Issuance of an NPDES Permit to Discharge
into Waters of the State

Indiana Department of Environmental Management
P. O. Box 6105
Indianapolis, Indiana 46206-6015
317/232-8760

Public Notice Number: 5I 9108 RI

Public Notice Issued On: March 14, 1990

Permit Number: IN 0000108

Name and Address of Permittee:

Amoco Oil Company
2815 Indianapolis Blvd
Whiting, Indiana 46394

Name and Address of Facility
Where Discharge Occurs:

Amoco Oil Company
2815 Indianapolis Blvd
Whiting, Indiana 46394

I. Permit Information

You are hereby notified that the Assistant Commissioner of the Office of Water Management, Indiana Department of Environmental Management issued an NPDES permit on March 2, 1990 to the above-named applicant to discharge wastewaters into Lake Michigan and the Lake George Branch of the Indiana Harbor Ship Canal in Lake COUNTY, Indiana. The permittee operates a petroleum refinery. Plant operations result in an average discharge of 136.5 million gallons per day of process water, cooling water, storm runoff water, and possibly sanitary water. Parameters to be monitored and/or limited in the discharge from outfall 001 include: flow, pH, TSS, TBOD5, COD, Oil and Grease, Phenolics (4AAP), Ammonia as N, Sulfide, Total Chromium, Hex. Chromium, Fecal Coliform, Residual Chlorine, TOC, Temperature, 2378-chlorinated dibenzodioxin, and 2378-chlorinated dibenzofuran, pursuant to applicable State and Federal law. The above-named State waters, into which the discharges are made, are classified for aquatic life, Domestic Use, Recreational Use, and Industrial Use in accordance with State water quality standards.

II. Appeal Procedures

Within fifteen (15) days after the date of publication of this notice, any person aggrieved by the issuance of the above-referenced permit may appeal in writing to the Commissioner of the Indiana Department of Environmental Management for an adjudicatory hearing on the question of whether the permit has been issued in accordance with applicable law.

Such a written request for an adjudicatory hearing must:

(1) state the name and address of the person making the request;
(2) identify the interest of the person making the request;
(3) identify any persons represented by the person making the request;
(4) state with particularity the reasons for the request;
(5) state with particularity the issues proposed for consideration at the hearing; and
(6) identify the permit terms and conditions which, in the judgement of the person making the request, would be appropriate to satisfy the requirements of the law governing permits of the type granted or denied by the Commissioner's action.

If any person filing such objections desires any part of the permit to be stayed pending the outcome of the appeal, a specific request for such must be included in the request, identifying those parts of the permit to be stayed.

Any such request shall be mailed or delivered to:

Kathy Prosser, Commissioner
Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, Indiana 46206-6015

III. General Information

Copies of the issued NPDES permit, the permit application, and other related documents are on file and may be inspected at the Indiana Department of Environmental Management, Room 714, Chesapeake Building, 105 South Meridian Street, Indianapolis, Indiana, at any time between 9:00 a.m., and 4:00 p.m., Monday through Friday. These documents may be copied at a cost of 15 cents per page. A copy of the final permit is also on file with the local health department and is available for public review. Please bring the foregoing to the attention of persons whom you know would be interested in this matter.

Amoco Oil Company
Whiting Refinery
2815 Indianapolis Boulevard
Post Office Box 710
Whiting, Indiana 46394-0710
219-473-7700

R. B. Sheldon
Refinery Manager

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

VIA HAND DELIVERY

August 29, 1994

Mr. Steve Roush
Supervisor, Permits Section
Indiana Department of Environmental Management
Office of Water Management
100 North Senate Street, P. O. Box 6015
Indianapolis, IN 46206-6015

Dear Mr. Roush:

Application for Renewal of NPDES Permit No. IN0000108

Enclosed are three copies of the Whiting Refinery's application to renew existing NPDES permit number IN0000108 and a check for $50 to cover the application fee. The attached Executive Summary, also contained in Volume I, describes the contents of the three volumes which comprise the application.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Joe Naccache, Superintendent, Water Quality at (219) 473-3740.

Sincerely,

R. B. Sheldon

Enclosures

Mr. Lonnie Brumfield (Exec. Summary only)
Chief, Permits Section
IDEM, Office of Water Management

EXECUTIVE SUMMARY

National Pollutant Discharge Elimination System

Permit No. IN0000108

Amoco Oil Company

Whiting, Indiana

August 29, 1994